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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,991	09/12/2003	Andrew L. Van Brocklin	200311745-1	8591

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EXAMINER

PHAM, HAI CHI

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,991

Applicant(s)

VAN BROCKLIN ET AL. *ac*

Examiner

Hai C. Pham

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-15, 22, 27, 29-32, 44-48, 54, 59 and 60 is/are allowed.
- 6) ☒ Claim(s) 1-10, 16-21, 23-26, 28, 33-43, 49-53, 55-58 and 61-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-3, 16, 23, 33, 35-37, 49, 55-57, 61 are rejected under 35 U.S.C. 102(e) as being anticipated by Morishima (Pub. No. U.S. 2004/0004912).

Morishima discloses a processor-readable medium comprising processor-executable instructions for focusing optics (paragraph [0063]), the processor-executable instructions comprising instructions for generating a data profile (e.g., contents of the focus control such as focus actuator driving voltage) (paragraphs [0076], [0078], [0088]), wherein the data profile is configured to provide signals for operation of an actuator (i.e., focus actuator driving voltage), wherein the signals result in focus of the

optics on a label region of an optical disc (paragraph [0072]), and printing an image on the label region of the optical disc while focusing the optics by applying signals to the actuator according to the data profile (paragraphs [0078]-[0079]).

Morishima further teaches:

- wherein generating the data profile comprises further instructions for configuring a look-up table (e.g., RAM) with signal data (i.e., focus actuator driving voltage), wherein the signal data are associated with focusing on locations within the label region (paragraph [0076]),
- wherein generating the data profile comprises further instructions for configuring a function to generate signal data, wherein the function associates locations within the label region with appropriate signals (paragraphs [0088]-[0089]),
- indexing the data profile according to an angular orientation of the optical disc, and fetching data from the data profile according to the angular orientation of the optical disc during the printing of the image on the label region (paragraph [0010]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 8-9, 24, 26, 28, 40-41, 43, 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima in view of Yonezawa et al. (U.S. 6,829,203).

Morishima discloses all the basic limitations of the claimed invention except for applying an AC component of a signal to the actuator to cause the optics to pass through a focal point in both directions on each cycle of the AC component and recording a voltage into a voltage data look-up table which was associated with a SUM signal peak, adjusting the recorded voltage by a phase shift corresponding to a lag time associated with the operation of the actuator.

Yonezawa et al. discloses an optical disk apparatus and focus processing method by applying an AC signal to the actuator (Fig. 14) to cause the optics to pass through a focal point in both directions on each cycle of the AC signal (Figs. 15-18), such that the focus control output signal with a phase adjusted value for the actuator is recorded in function of the angle of rotation of the spindle motor (col. 6, lines 15-57).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the AC signal for driving the actuator during the calibration process in the device of Morishima as taught by Yonezawa et al. The motivation for doing so would have been to provide an accurate focus control signal independent of the substrate thickness variation of the optical disc.

5. Claims 4-7, 10, 24-25, 38-40, 42, 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima in view of Kadlec et al. (U.S. 6,813,226).

Morishima discloses all the basic limitations of the claimed invention except for generating coefficient data for a Fourier series or for a polynomial series, applying an AC component of a signal to the actuator to cause the optics to pass through a focal point in both directions on each cycle of the AC component and recording a voltage into a voltage data look-up table which was associated with a SUM signal peak, wherein the sum signal peak is determined by measuring sides of the sum signal peak and averaged.

Kadlec et al. discloses a calibration process of a focus sum threshold in a focus servo system by driving an optical pick-up unit through a focus position, e.g., by moving the optical pick-up unit between its closest position to an optical medium and its farthest position from the optical medium and recording the necessary signal for driving the optical pick-up unit, which reaches the just-focus position based on the sum signal, the accumulated sum signals or the average of the two peaks (col. 55, line 15 to col. 56, line 40). Kadlec et al. further teaches using a Fourier transform algorithm or determining the coefficient of a polynomial series for executing a focus loop gain calibration (Fig. 23).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the AC signal for driving the actuator during the calibration process while using the sum signal or the averaged value to determine the signal level for the focus control in the device of Morishima as taught by Kadlec et al. The motivation for doing so would have been to provide an accurate focus control signal independent of the substrate thickness variation of the optical disc.

6. Claims 17-20, 50-52, 62, 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima in view of Büchler (U.S. 6,266,305).

Morishima discloses all the basic limitations of the claimed invention except for interpolating between measured signals and applying the interpolated values to the actuator.

Büchler discloses a control device for compensating an error in the tracking and focusing of a laser beam onto optical recording media based on the sum signal obtained from a four-quadrant detector, wherein the control process uses an interpolation approach to obtain the desired value by linear or non-linear interpolation of a small number of measured values (see Fig. 4 and associated discussions).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to incorporate the interpolation method in Morishima control device as taught by Büchler. The motivation for doing so would have been to shorten the time for carrying out the control process as suggested by Büchler.

7. Claims 21, 34, 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima in view of Biber et al. (U.S. 4,182,563).

Morishima discloses all the basic limitations of the claimed invention except for configuring the data profile as a piece-wise continuous function.

Biber et al. discloses a focus control system in which the axial position of the lens is approximated by a piecewise function as represented by the curve (52, Fig. 2) that fits within the limits of the focusing ranges of the lens (col. 4, lines 1-40).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide a piecewise continuous function to adjust the position of the moving focus lens in the device of Morishima as taught by Biber et al. The motivation for doing so would have been

Allowable Subject Matter

8. Claims 11-15, 22, 27, 29-32, 44-48, 54, 59-60 are allowed.

Response to Arguments

9. Applicant's arguments filed 10/11/05 have been fully considered but they are not persuasive.

10. Applicants argued that "the "focus control" as taught by Morishima is not "data profile"" since the focus control in Morishima does not include location information. The examiner respectfully disagrees. Morishima teaches the "focus control" containing focus actuator driving voltage being stored in RAM, wherein the control unit (16) adjusts an amount of offset of the actuator driving voltage according to a position information r indicating the irradiation position in the radial direction (paragraphs [0088]-[0089]).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (571) 272-1934. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2861

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HAI PHAM
PRIMARY EXAMINER

December 22, 2005